



CERTIFICATE NUMBER  
19-HS1873177-PDA

DATE  
12 Jun 2019

ABS TECHNICAL OFFICE  
Houston ESD - Piping

# CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of

## CLA-VAL COMPANY

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Valve, Pressure Reducing**  
Model: **Model 90-21: 90G – 21 (Globe)**  
**90A – 21 (Angle)**

This Product Design Assessment (PDA) Certificate 19-HS1873177-PDA, dated 12/Jun/2019 remains valid until 11/Jun/2024 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

Tim Kimble  
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

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**Tier: 2 - PDA Issued**

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**Product:** Valve, Pressure Reducing  
**Model:** Model 90-21: 90G – 21 (Globe)  
90A – 21 (Angle)

**Intended Service:**  
Marine and Offshore Applications - Seawater and Fire Water Piping System.

**Description:**  
Cla-Val Model 90G-21 (Globe), 90A-21 (Angle) is a pressure reducing control valve which is hydraulically operated, diaphragm-actuated, globe or angle pattern valve; Pressure reducing valves for pressure control.

Optional UL Listed Materials for Seawater and Severe Service Applications:

- Nickel Aluminum Bronze (NAB) - ASTM B148 Alloy C95800 (See Service Restriction 2)
- Monel - QQ-N-288 Comp B - ASTM A494 Grade M30H
- Cast Steel - ASTM A216 Grade WCB
- 316 Stainless Steel - ASTM A743 Grades CF3M and CFM8
- Super Austenitic Stainless Steel - ASTM A351 Grade CK3MCuN (SMO 254)
- Super Duplex Stainless Steel - ASTM A890 Grade 5A (CE3MN)

Gaskets made of EPDM, FKM or equivalent.

Connection: Threaded, Flanged and Grooved. Please see the attached data sheet.

**Rating:**

Models:  
90G-21 Globe  
90A-21 Angle

Ductile Iron Body ASTM (65-45-12) (Sizes: 1 1/2" to 8")

Bronze Body (Sizes: 1 1/2" to 3")

Maximum rated inlet pressure: 175 psig

Outlet Pressure Setting Range: 30-165 psig

Cast Steel (Sizes: 1 1/2" to 6")

Cast Ductile Iron (Sizes: 1 1/2" to 6")

Bronze Body (Sizes: 1 1/2" to 3")

Maximum rated inlet pressure: 300 psig

Outlet Pressure Setting Range: 30-165 psig

Design Temperature (Water): up to 180 °F Max;

For additional data see product catalogues.

**Service Restriction:**

- Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

- Where the valves are used in fire water piping system, materials rendered ineffective by heat are not to be used in the construction of the valves or the closure mechanism, as per 4-7-3/1.11 of ABS Rules for Building and Classing Marine Vessels Rules.

**Comments:**

1. The manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

2. All valves are to bear permanent identification, such as the manufacturer's name or trademark, material identity, pressure rating, etc. at which the manufacturer guarantees the valves to meet the requirements of the manufacturer's standards. Such markings may be cast or forged integral with, stamped on, or securely affixed by nameplate on the

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component, and are to serve as a permanent means of identification of the component throughout its service life in accordance with 4-6-1/7.1.3 and 4-6-1/7.1.4 of the Marine Vessel Rules.

3. The application and installation of the valves is to be in accordance with the manufacturer's specifications, instructions and recommendations.

4. Underwriters Laboratories requires the installation of pressure gauges upstream and downstream of the Pressure Reducing Valve.

**Notes/Drawing/Documentation:**

Drawing No. File EX2534 UL Test Report for 90-21 Issued 1988 Revised 2008; Revision:-, Pages: 82;

Drawing No. 20023 Test Procedure, Ref: UL File EX2534; Revision: C, Pages: 1;

Drawing No. 17301 1 ½" – 8" 90-21, U.L. Listed Pressure Reducing Valve; Revision: G:-, Pages: 2;

Drawing No. N-90-21 UL 100-01 listed Pressure Reducing Valve (Brochure); Revision: -, Pages: 4;

Drawing No. E-90-21(002) Technical Data Sheet E-90-21(R-01/2016)); Revision: -, Pages: 2;

**Terms of Validity:**

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**STANDARDS**

**ABS Rules:**

Rules for Conditions of Classification, Part 1, (2019) Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

Marine Vessel Rules 4-6-1/7.1.4, 4-6-2/3.1.4 /3.1.6, 4-6-2/5.11, 4-6-2/5.15, 4-6-2/5.17;

Rules for Conditions of Classification, Part 1, (2019) Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following

Mobile Offshore Units Rules 4-2-2/9;

**National:**

2017 UL1739 6th edition - UL Standard for Safety Pilot-Operated Pressure-Control Valves for Fire-Protection Service.

2016 UL 1468 5th edition - UL Standard for Direct Acting Pressure Reducing and Pressure Restricting Valves.

**International:**

NA

**Government:**

NA

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**EUMED:**  
NA

**OTHERS:**  
NA